

MTWTFSS

SECTION-I

Date: _____

Q-6 Pointing to woman, Ahsan said, "Her granddaughter is the only daughter of my brother". How woman related to Ahsan?

Simplifying, -

Acc to statement:

Women's granddaughter is the daughter of Ahsan's brother. So, she is Ahsan's niece.

So, Women is Ahsan's mother, as she is the Grandmother of Ahsan's niece.

Ans:- Women is Ahsan's mother.

Q-7 Ratio between L & B of rectangular park is 3:2. If a man cycling along a boundary at 12km/h completes one round in 8min. Area of Park?

Sol:- Ratio of Length to Breadth = 3:2

To find Perimeter, we need to find the distance

$$\therefore \text{Speed} = \text{Distance} / \text{time}$$

$$\text{Distance} = \text{S} \times \text{t}$$

$$\text{Distance Covered in one minute} = \frac{12000}{60} \text{ m}$$

$$\text{Distance Cover in one min} = 200 \text{ m}$$

$$\text{Distance Covered in 8 min} = 200 \times 8 = 1600 \text{ m}$$

$$\text{So, Perimeter} = 1600 \text{ m}$$

$$\text{Length} = 3A$$

$$\text{Breadth} = 2A$$

$$\text{Perimeter} = 2L + 2B$$

$$= 2 \times 3A + 2 \times 2A$$

$$= 6A + 4A$$

$$1600 = 10A$$

$$A = \frac{1600}{10}$$

$$A = 160$$

So, length = $3 \times 160 = 480\text{m}$

Breadth = $2 \times 160 = 320\text{m}$

Area = $L \times B$

= 480×320

= 153600m^2

$A = 153600\text{m}^2$

980

320

9 0 0 x

1440 x x

153600

Q-6 In a two digit number, if it is known that its
(e) unit's digit exceeds its ten's digit by 2 and....

Solr

let unit's digit = x

ten's digit = y

According to condition

$x = y + 2$

two digit number can be $10y + x$

Sum of its digit = $x + y$

Product of the number and Sum of its
digit = 144

$(10y + x)(x + y) = 144$

$x = y + 2$

$(10y + y + 2)(y + 2 + y) = 144$

$(11y + 2)(2y + 2) = 144$

$22y^2 + 22y + 4y + 4 = 144$

$22y^2 + 26y + 4 = 144$

$22y^2 + 26y - 140 = 0$

$2(11y^2 + 13y - 70) = 0$

$11y^2 + 13y - 70 = 0$

$y(11y + 35) - 20(4y + 35)$

$(11y + 35)(y - 2)$

135

22

70

x

70

40

27

80

80 x

1080

11

90

00

77 x

770

$$y - 2 = 0$$

$$y = 2$$

We know $x = y + 2$

$$x = 2 + 2$$

$$x = 4$$

So, the number is

$$\boxed{24}$$

Sum is $2 + 4 = 6$

Product of sum and number = 144

$$24 \times 6 = 144$$

$$\boxed{144 = 144} \text{ Checked } \checkmark$$

(D) The L.C.M of two numbers is 48. The number are in ratio 2:3. Then sum of number?

Sol:- Let the number is x

$$\text{L.C.M} = 48$$

$$\text{Ratio} = 2:3$$

$$\text{first number} = 2x$$

$$\text{Second number} = 3x$$

$$\text{L.C.M} = 2x \times 3x$$

$$48 = 2x \times 3x$$

$$48 = x(2 \times 3)$$

$$48/6 = x$$

$$x = 8$$

$$\text{First number} = 2x = 2 \times 8 = 16$$

$$\text{Second number} = 3x = 3 \times 8 = 24$$

$$\uparrow \text{Sum of the numbers} = 16 + 24 = 40$$

Q7(a) if 40% of a number is two-third of another number. What is the ratio of first number to the second number?

Soln- let the numbers are x and y

$$40\% \text{ of } x = \frac{2}{3} y$$

$$0.4x = \frac{2}{3} y$$

$$3 \times 0.4x = 2y$$

$$1.2x = 2y$$

multiplying by 10

$$\frac{x}{y} = \frac{20}{12}$$

$$\frac{x}{y} = \frac{5}{3}$$

So, ratio of first number to second number is $\boxed{5:3}$

(B) On selling 17 ball at Rs. 720, there is a loss equal to cost price of 5 balls. The Cost price of a ball is?

Soln-

let the Cost price of a ball = x

Total Cost price = $17x$

We know

Loss = Cost price - Sale price

$$5x = 17x - 720$$

$$5x - 17x = -720$$

$$-12x = -720$$

$$x = \frac{720}{12} = 60$$

$$\boxed{x = 60}$$

So, Cost price of a ball is 60

(C) A man is 24 years older than his son,
In two years his age will be twice
the age of his son. The present age of his son?
Sol:- let age of Man = x
age of son = y

$$x = y + 24 \quad \text{--- (1)}$$

In 2 years Man will be twice age of
his son

$$(x+2) = 2(y+2) \quad \text{--- (2)}$$

$$x+2 = 2y+4$$

$$x = 2y+4-2$$

$$x = 2y+2 \quad \text{Put in eq (1)}$$

$$x = y+24$$

$$2y+2 = y+24$$

$$2y - y = 24 - 2$$

$$\boxed{y = 22}$$

Put in eq (2)

$$x = 2y+2$$

$$x = 2(22)+2$$

$$x = 44+2$$

$$x = 46$$

Present age of Son = 22 years

(D) Rashid and Kamran are working on an
assignment. Rashid takes 6h to type 32 pages
on Computer, while Kamran take 5 hours to
type 40 pages. How much time will they
take to type 110 pages on different Computers.

Sol:- Rashid types 32 pages in 6 hours

Rashid type + $\frac{32}{6}$ page per hour

Similarly, Kamran types 40 pages in 5 hours

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Ramran types $\frac{40}{5}$ pages per hour

By working together, they can write $\frac{32}{6} + \frac{40}{5}$ pages per hour

$$\frac{16}{3} + \frac{8}{1}$$

$$\frac{16}{3} + 8$$

$$\frac{16 + 24}{3}$$

$$\frac{40}{3} \text{ pages per hour}$$

Time required to type 110 pages = ?

$$\text{Time required} = \frac{110}{\frac{40}{3}}$$

$$= \frac{110 \times 3}{40} = \frac{33}{4}$$

$$8.25$$

~~Time required for 110 pages = 9.25~~

Time required to type 110 pages = 8.25 hours

$$\begin{array}{r} 4 \overline{) 33} \\ 32 \\ \hline 10 \\ 8 \\ \hline 20 \\ 20 \\ \hline 0 \end{array}$$